in the presence of evidences of the condition elsewhere, and a positive Wassermann reaction. However, amyloid disease due to syphilis is a pathological rather than a clinical entity. *Syphilis of the Pancreas:* While common in syphilis of the newborn, clinical syphilis of the pancreas in the acquired form is one of the rarest of syphilitic visceral manifestations. From a pathological standpoint Warthin believes that chronic interstitial pancreatitis is one of the most frequent visceral lesions found in latent syphilis. The condition may occur either as a gummatous pancreatitis or an interstitial pancreatitis or as a combination of the two. The symptoms are not pathognomonic. The author feels these points are suggestive of syphilis when the pancreas is the site of the disease: jaundice without other cause, glycosuria and pancreatic tumor without cachexia. The therapeutic test is the most efficient diagnostic aid.

Studies on Measles.—Blake and Trask (*Jour. Exp. Med.*, 1921, xxxiii, 385 and 413). Of seven monkeys receiving intratracheal injections of unfiltered nasopharyngeal washings from cases of measles in the preëruptive and early eruptive stages of the disease, five developed symptoms closely simulating those of the disease in man. Similar symptoms were induced in one monkey by inoculating the nasal and buccal mucous membranes with unfiltered washings and in two other monkeys by the intratracheal inoculation of washings which had previously been passed through Berkefeld N filters. The characteristic group of symptoms which follow the inoculations was successfully carried through six passages by intratracheal injection of saline emulsions of the skin and buccal mucous membranes of monkeys killed from two to six days after the onset of the reaction. From the fourth passage monkey the reaction was successfully induced in three monkeys by the transfusion of citrated whole blood. Blood cultures were negative. The symptoms induced were constant and definite, the only conspicuous difference between the experimental disease and human measles being the absence of respiratory symptoms in the former. Moreover, histological examination of the lesions of the skin and buccal mucosa revealed no essential differences in the two conditions. The conclusion is drawn that monkeys (*Macacus rhesus*) are susceptible to inoculation with the virus of measles.

Experimental Studies on the Nasopharyngeal Secretions of Influenza Patients.—Olitsky and Gates (*Jour. Exp. Med.*, 1921, xxxiii, pp. 125, 361 and 373). These investigators communicate, in a series of three papers, the results of their studies at the Rockefeller Institute on influenza. Their work to date may be summarized as follows: (1) An active transmissible agent present in the nasopharynx in early cases of influenza produces characteristic clinical and pathological effects in rabbits and guinea-pigs (fever, leukopenia, lung hemorrhage, edema and emphysema). This active substance disappears or diminishes in the nasopharyngeal secretions of cases of epidemic influenza early in the disease and seems to be absent in healthy persons and in other pathological conditions. (2) This agent passes through a Berkefeld filter and the filtered material produces the same effect in experimental animals as the unfiltered material. The agent withstands the action of glycerol 50 per cent. for periods up to nine months (thus resembling the virus of poliomyelitis, smallpox, etc.). (3) Concurrent infections occurred in the experiments described and are regarded as accidental. Experiments were performed which indicated that the presence of the "influenzal agent" in the pulmonary tissue encouraged the invasion of the lung by ordinary bacteria such as the pneumococcus, streptococcus and Bacillus pfeifferi. In no instance did death occur in rabbits as the result of the uncomplicated effects of the "influenzal agent." When death occurred there was always present infection of the lungs by ordinary bacteria (pneumococcus Type IV and atypical Type II, streptococci and hemoglobinophilic bacilli, etc.).

Focal Infection and Selective Localization on Streptococci in Pyelonephritis.—Bumpos and Meisser (*Arch. Int. Med.*, 1921, xxvii, 326). In a study of six patients with pyelonephritis and dental sepsis the authors have attempted to ascertain by the intravenous injection of the Streptococcus viridans obtained from the teeth whether or not there exists a relationship between the two conditions. The technic of Rosenow was employed and 27 rabbits were injected with the primary cultures. At autopsy 24 of these had lesions in the kidneys, 8 in the bladder, 4 in the muscles, 3 in the stomach, 3 in the endocardium, 2 in the myocardium and 4 in the joints. The extra-urinary lesions were relatively slight in each instance. On subsequent animal passage of these strains this affinity for the urinary tract was shown to decrease. The conclusion is arrived at that "pyelonephritis may often be due to focal infections harboring streptococci which have a selective affinity for the urinary tract and that the colon bacillus which is commonly found and generally believed to be the cause, is of secondary importance.

The Cause of So-called Idiopathic Hydrocephalus.—Dandy (*Johns Hopkins Hosp. Bull.*, 1921, xxxii, 67). It is recalled that until recent years all cases of hydrocephalus were considered to be idiopathic. It seems certain now that one group of these cases has, as its underlying pathology, lesions occluding the ventricular system (obstructive hydrocephalus). The present communication deals with human experimental cases of so-called communicating hydrocephalus in which free communication was proved to exist between the ventricles and subarachnoid space, and an attempt is made to "correlate all the anatomical variations of communicating hydrocephalus into a single disease with a fundamentally similar pathology." Extracts from the author's summary and conclusions follow: The cerebrospinal fluid circulates in a closed vascular system. This is just as well defined as the vascular system for blood, lymph, bile or urine. In the ventricular system the fluid is produced but not absorbed; nearly all the cerebrospinal fluid is absorbed in the cerebral sulci (to which it passes from the ventricles via the cisternæ). Collateral circulation is almost precluded either in the ventricles or in the cisternæ. An obstruction in these spaces, therefore, results in hydrocephalus—if the obstruction is situated in any part of the ventricles an "obstructive" type of hydrocephalus is produced; if it is situated in the cisternæ or in the main branches of the cisternæ a "communicating" type of hydrocephalus results. That the latter type of hydrocephalus is due to obstruction in the cisternæ or their main branches is demonstrated by its experimental production in animals and by the demonstration of such an obstruction in living patients by cerebral pneumography. Adhesions, which follow meningitis and occlude the cisternæ, cause the vast majority of cases of communicating hydrocephalus, although in two cases cited the condition seemed to depend upon a congenital failure of the cisternæ or of its branches to develop. Brain tumors may also be a cause.

Experimental Inoculation of Human Throats with Avirulent Diphtheria Bacilli.—Moss, Guthrie and Marshall (*Johns Hopkins Hosp. Bull.*, 1921, xxxii, 37). The authors summarize the results of their extensive investigations as follows: "(1) The carrier state was easily produced in human beings by inoculation of the throat with avirulent diphtheria bacilli. (2) When thus produced the carrier state lasted for a long time, two of the carriers still harboring avirulent diphtheria bacilli after fifteen months. (3) The previous administration of diphtheria antitoxin subcutaneously did not prevent the lodgment and growth of the organisms. (4) Inoculation of avirulent diphtheria bacilli into the throats of human beings did not produce: (*a*) clinical diphtheria; (*b*) any subjective symptoms; (*c*) any objective change in the appearance of the throat. (5) The results of the guinea-pig test for virulence were confirmed when thus tested with human beings. (6) No cases of clinical diphtheria developed among the associates of these artificially produced "healthy carriers" of avirulent diphtheria bacilli. (7) When isolated in pure culture after prolonged sojourn in the human throat the bacilli were not altered in morphology or in their staining or cultural characteristics. (8) The bacilli showed no tendency to become virulent as a result of this type of animal passage, either in the carriers who had received diphtheria antitoxin or in those who had not. (9) Spraying the nose with gentian violet in a strength which could be tolerated seemed to be without effect in eradicating avirulent diphtheria bacilli." The following are the conclusions of the investigators: "(1) Avirulent diphtheria bacilli retain their characteristics despite long residence in the human throat or transfer from one human being to another. (2) Avirulent diphtheria bacilli are devoid of pathogenic importance for man. (3) The carrier of avirulent diphtheria does not constitute a menace to the health of the community."

SURGERY

UNDER THE CHARGE OF

T. TURNER THOMAS, M.D.,

ASSOCIATE PROFESSOR OF APPLIED ANATOMY AND ASSOCIATE IN SURGERY IN THE UNIVERSITY OF PENNSYLVANIA; SURGEON TO THE PHILADELPHIA GENERAL AND NORTHEASTERN HOSPITALS AND ASSISTANT SURGEON TO THE UNIVERSITY HOSPITAL.

Subphrenic Abscess.—Ullman and Levy (*Surg., Gynec. and Obst.*, 1920, xxxi, 594) review the literature on this subject and report a case cured by operation. Of 890 cases collected by Piquand in 1908, 28 per cent. followed gastric and duodenal ulcers and 21 per cent.

appendicitis; 15 per cent. were associated with the liver and biliary passages; 6 per cent. with intestinal diseases; and the remaining 3 per cent. with various conditions. Of Barnard's series of 76 cases collected from the London Hospital, gastric and duodenal ulcers were responsible for one-third of the cases (34 per cent.), appendicitis for one-sixth (15 per cent.), tropical and hydatid diseases of the liver for one-sixth (17 per cent.); the remaining were distributed among rare conditions, such as cancer of the pancreas, pyosalpinx, splenic infarct, gall-stones, etc. Since 1908, appendicitis as the cause of subphrenic abscess appears to assume the principal etiological role. This view was vigorously suggested by Heffinger in 1912. Subphrenic abscesses are apparently not so common today as formerly. The improvement in diagnostic skill, and the almost universal employment of the roentgen ray for thoracic and abdominal diagnosis, together with the realization of what clinical diseases may be complicated by a subphrenic abscess, have apparently rendered this condition an uncommon occurrence today. In the present paper they reported a case of a patient who developed a subphrenic abscess while under care, showing that such a condition may occur even under hospital supervision; secondly, the case is worthy of record in view of the interesting roentgenological findings of an abscess with gas formation. Moore has pointed out that roentgenological illustrations of subphrenic abscesses containing gas are very rare.

Two Hundred and Fifty Operations on the Gall-bladder and Ducts.—McGuire (*Surg., Gynec. and Obst.*, 1920, xxxi, 617), says all gall-stones have their origin in a primary cholecystitis. Typhoid bacilli are present in only 7 to 10 per cent. of gall-stones. The mode of transmission of the primary infection is not positively determined. He is of the opinion that it is almost always carried by the blood-stream, and rarely, if ever, by direct extension. It is probably more frequently associated with a primary lesion elsewhere in the abdomen. A diseased appendix is very frequently present when stones are found in the gall-bladder. It is probably the cause of the primary cholecystitis in more instances than is commonly believed. Gall-stones are rare in young people. In less than 15 per cent. was the patient under thirty years, while over 60 per cent. occur between the ages of thirty and fifty years. Jaundice has received too much emphasis as a diagnostic symptom. Probably when the primary cholecystitis is present, a goodly proportion have a mild jaundice, but it is slight and usually forgotten. Stones in the gall-bladder or the cystic duct produce jaundice only by pressure on the common duct or by associated cholecystitis. Attacks of pain in right upper quadrant are most frequent symptoms of stones. Cholecystectomy is the operation of choice where there are stones in the gall-bladder or cystic duct. It is probably the operation of choice where stones are in the common duct, if one is positive all stones have been removed, because stones in the common duct are so often associated with an old contracted gall-bladder. The mortality from cholecystectomy is now sufficiently low so that decision for or against the operation should be judged largely by the percentage of ultimate cures. In cancer of pancreas, the mortality is so high that operative procedure is prohibitive. If operation be done, anastomosis between gall-bladder and stomach is the one of choice.